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Butterfly Gardens

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BUTTERFLY GARDENS

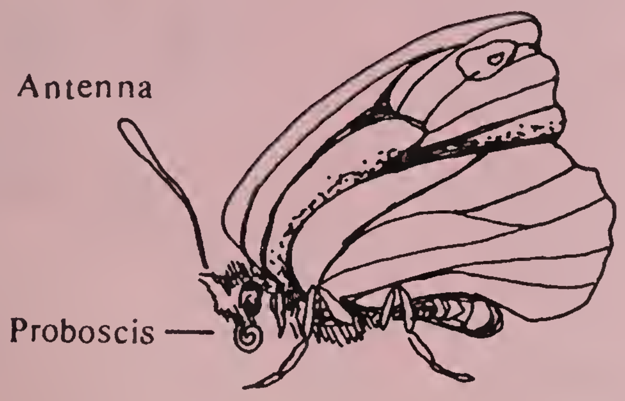
By cultivating particular nectar flowers and host plants, it is possible to attract many species of butterflies. This brochure includes sketches of butterflies, their larval host plants, and their adult nectar sources. Specific plants are listed which attract butterfly larva and adults. Each species of butterfly and plant is listed by its double scientific name and its common name, such as *Danaus plexippus* for the Monarch Butterfly and *Asclepias tuberosa* for the Butterfly Weed. By cultivating the suggested plant species you can have your own "Butterfly Garden." Do not use pesticides or herbicides in or near the butterfly garden.

BUTTERFLY CONSERVATION

Butterfly habitats must be protected to ensure future generations the opportunity to view these fascinating and colorful animals. Both adult butterflies and caterpillars require specific kinds of plants and habitats. For this reason butterflies are especially susceptible to land development. The widespread use of pesticides and herbicides further reduces butterfly populations. Many butterfly species are declining in range and numbers and have been listed as Threatened or Endangered species. Prairie grasslands, bogs, marshes, sand dunes, and forests are among the threatened butterfly habitats. The loss of butterfly species will eventually affect us. Butterflies are significant plant pollinators and are good indicators of environmental quality. They have important roles in food chains and few species compete for plants that people value.

Why don't you participate in butterfly conservation? Plant a "Butterfly Garden." Provide plants in your own backyard as food for butterfly caterpillars. Adult butterflies will lay their eggs on specific plants that the larva will eat. You should realize that the butterfly larva will eat these plants as they complete their life cycle. Adult butterflies need large amounts of energy for flight. They utilize high-energy food sources such as nectar-producing flowers. Butterflies will visit several different flowers for nectar. To attract adult butterflies a variety of flowering plants should be planted in your "Butterfly Garden."

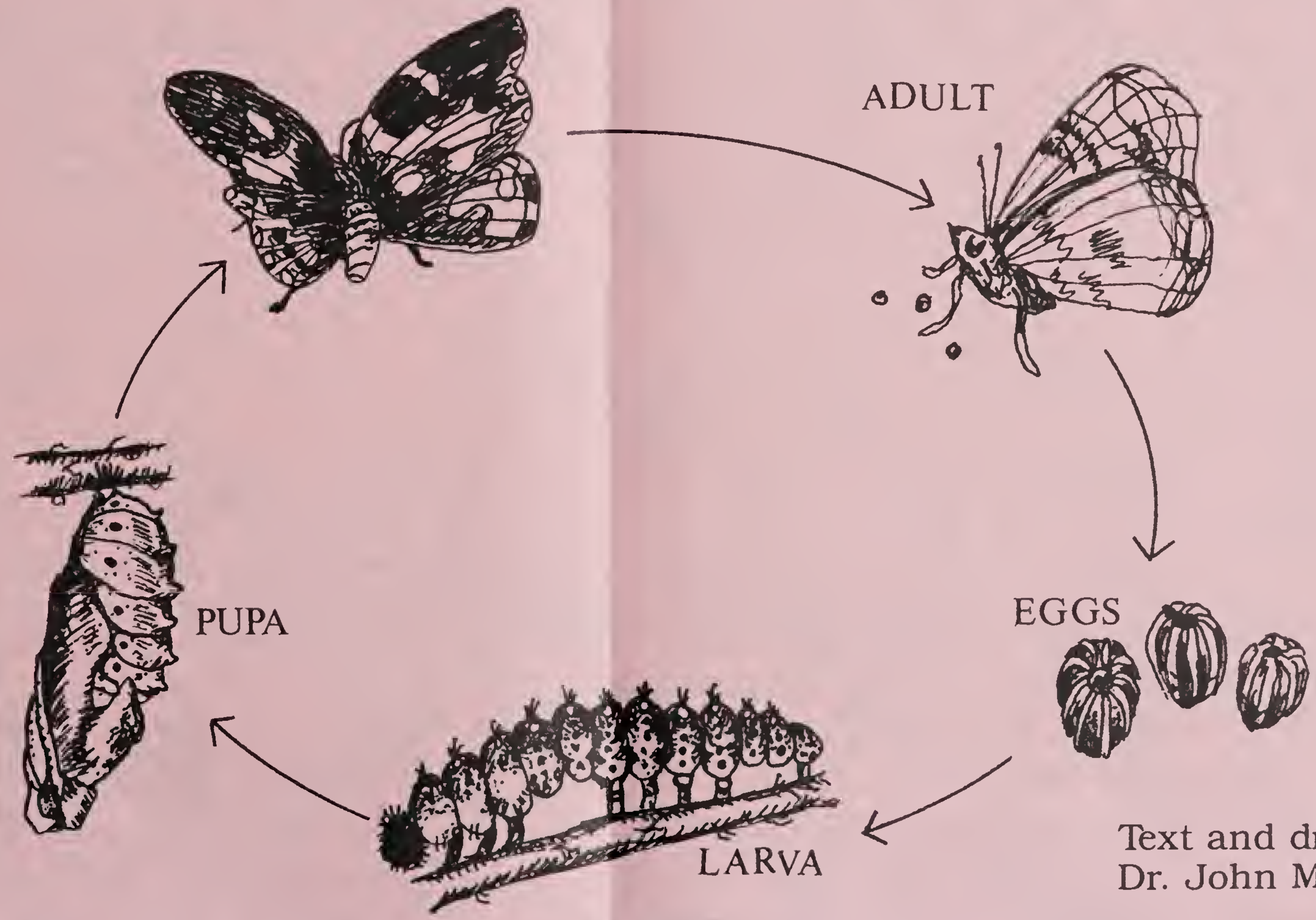
BUTTERFLY LIFE HISTORY



Butterflies are insects that have 6 jointed legs, 3 body segments, 2 antennae, and 2 pair of wings. They are in the insect group *Lepidoptera*, whose members (butterflies and moths) have scales over most of their wings. Butterflies fly during the day, while most moths are nocturnal. Butterflies at rest hold the wings vertically over the back and have knob-like clubs at the tips of the antennae. The antennae are used for smelling as well as for touching and orientation. Adult butterflies obtain nectar via a coiled tonguelike proboscis. The proboscis is constructed of 2 parallel linked tubes, which work like a pair of drinking straws. The proboscis can be coiled up tightly against the face or be fully extended to drink nectar or other liquids.

The typical butterfly life history consists of complete metamorphosis which is characterized by four distinct stages. These are illustrated in the sketch. The egg hatches into a larva (caterpillar), which feeds, grows, and molts several times before transforming into a pupa. After a period of time, a winged adult emerges.

After mating, female butterflies lay eggs either singly, in rows, or clusters of a few to several hundred eggs. The egg shape and texture varies greatly among species. Some eggs do not hatch until the following spring, while others hatch before winter. The caterpillar or larva spends its life feeding, the more it eats the larger it grows. Because its skin cannot stretch, the caterpillar grows by molting or shedding its skin several times. Each of these stages is called an instar and is larger than the previous one. The final molt produces the chrysalis or pupa. The pupa is a resting stage and does not feed. As the adult butterfly begins to form inside the pupa, the shape of the wings and other body parts become visible. When the adult is fully formed, the pupal skin splits open and the adult butterfly crawls out. The newly emerged adult begins to pump fluids into its wings and soon is ready to fly. This transformation from egg to adult butterfly is called complete metamorphosis. This is the life history of a butterfly.



Text and drawings by
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BUTTERFLY LARVAL SOURCES

The following chart lists host plants for some large and showy butterflies.

BUTTERFLIES	LARVAL FOOD PLANTS
PIPEVINE SWALLOWTAIL *Papilio philenor*	pipevine, *Aristolochia tomentosa*
BLACK SWALLOWTAIL *Papilio polyxenes asterius*	carrots, parsley, dill, *Umbelliferae*
GIANT SWALLOWTAIL *Papilio cresphontes*	prickly ash, *Zanthoxylum*, americanum, citrus trees
SPICEBUSH SWALLOWTAIL *Papilio troilus*	spicebush, *Lindera benzoin* sassafras, *Sassafras albidum*,
TIGER SWALLOWTAIL *Papilio glaucus*	wild cherry, birch, poplar, ash, apple trees, tulip tree
ZEBRA SWALLOWTAIL *Papilio marcellus*	pawpaw, *Asimina triloba*
CLOUDLESS SULPHUR *Phoebis sennae*	sennas, *Cassia spp.*
DOG FACE *Colias cesonia*	leadplant, *Amorpha canescens*, clover, *Petalostemon spp.*
MONARCH BUTTERFLY *Danaus plexippus*	milkweeds, *Asclepias spp.*
GREAT SPANGLED FRITILLARY *Speyeria cybele*	violets, *Viola spp.*
QUESTION MARK *Polygonia interrogationis*	elm, *Ulmus spp.*, hackberry, *Celtis spp.*
COMMA BUTTERFLY *Polygonia comma*	hops, *Humulus lupulus*
BUCKEYE *Precis lavinia*	plantain, *Plantago spp.*, snapdragon, *Antirrhinum spp.*
PAINTED LADY *Vanessa cardui*	thistles, *Cirsium spp.*, *Centaurea cyanus*
RED ADMIRAL *Vanessa atalanta*	nettles, *Urtica spp.*, *Boehmeria cylindrica*
MOURNING CLOAK *Nymphalis antiopa*	willows, *Salix spp.*, elms, *Ulmus spp.*
VICEROY *Limenitis archippus*	pussy willow, *Salix discolor*, plums, cherries, *Prunus spp.*
RED-SPOTTED PURPLE *Limenitis arthemis astyanax*	willows, *Salix spp.*, poplars, *Populus spp.*
GOATWEED BUTTERFLY Anaea andria	goatweeds, Croton spp.
HACKBERRY BUTTERFLY *Asterocampa celtis*	hackberry, *Celtis spp.*

BUTTERFLY NECTAR SOURCES

The following chart lists flowering plants that are commonly used by various adult butterflies as nectar sources.

CULTIVATED FLOWERS:

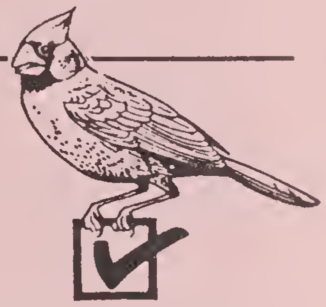
alyssum-white, *Alyssum spp.*
blackberry lily, *Belamcanda chinensis*
daisies, *Chrysanthemum spp.*
lantana, *Viburnum spp.*
marigolds, *Tagetes spp.*
pink live forever, *Sedum alboroseum*
pink phlox, *Phlox spp.*
purple aster, *Aster spp.*
zinnias, *Zinnia spp.*

WILDFLOWERS:

blazing stars, *Liatris spp.*
black-eyed Susan, *Rudbeckia hirta*
boneset, *Eupatorium spp.*
clover, *Trifolium spp.*
butterfly weed, *Asclepias tuberosa*
coneflowers, *Echinacea spp.*
goat's beard, *Tragopogon spp.*
goldenrods, *Solidago spp.*
dogbane, *Apocynum spp.*
ironweed, *Vernonia spp.*
Joe-Pye weed, *Eupatorium spp.*
milkweeds, *Asclepias spp.*
phlox, *Phlox spp.*
New-England aster, *Aster novae-angliae*
spearmint, *Mentha spicata*
thistles, *Centaurea spp.*
verbena, *Verbena spp.*
wild bergamot, *Monarda fistulosa*

SHRUBS AND TREES:

buckeye, *Aesculus spp.*
butterfly bush, *Buddelia spp.*
blueberries, *Vaccinium spp.*
hawthorns, *Crataegus spp.*
fruit trees, *Prunus, Pyrus spp.*
New Jersey Tea, *Ceanothus spp.*
privet, *Ligustrum spp.*
lilac, *Syringa vulgaris*
redbud, *Cercis canadensis*
spicebush, *Lindera benzoin*
spirea, *Spirea spp.*
sumacs, *Rhus spp.*



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